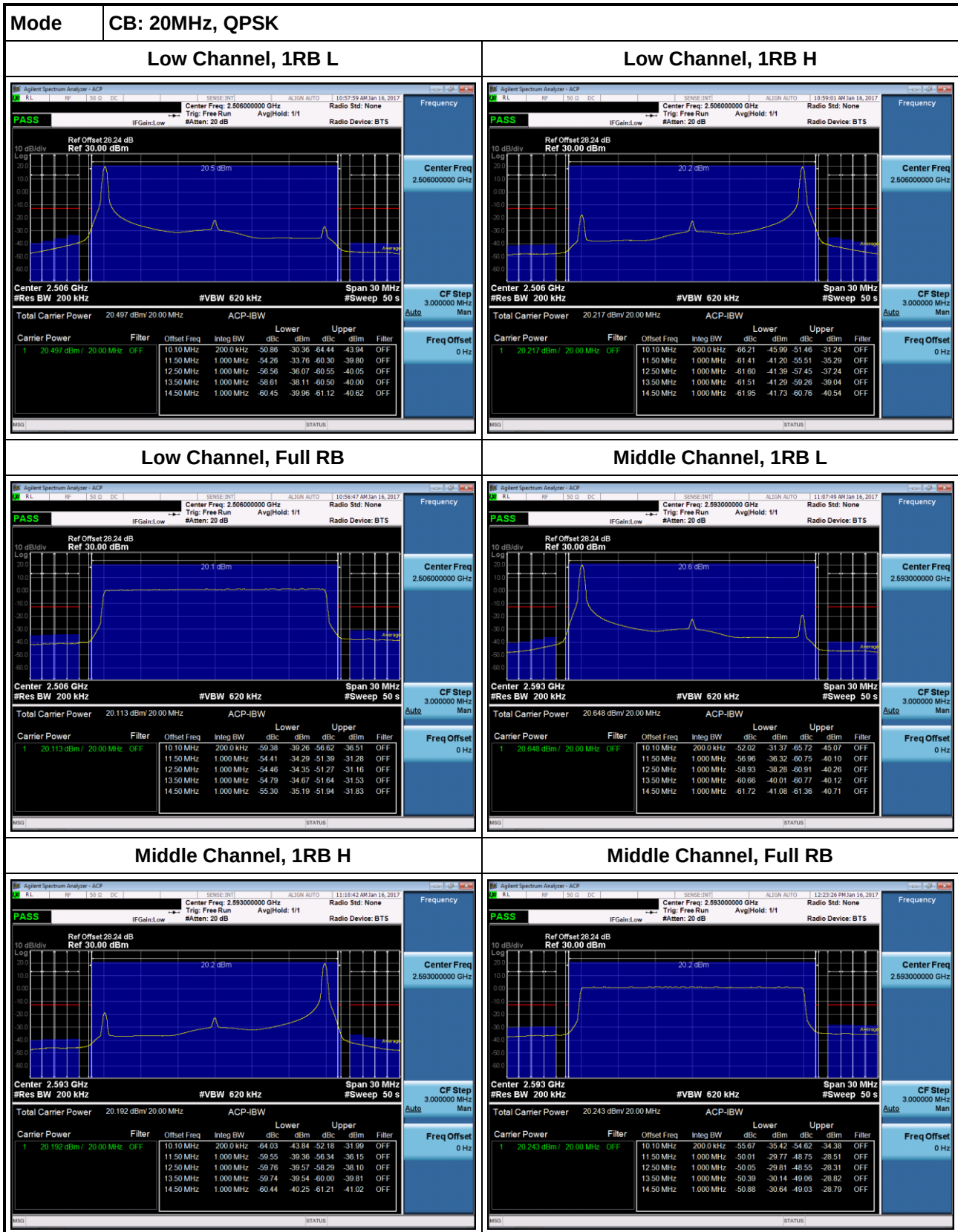
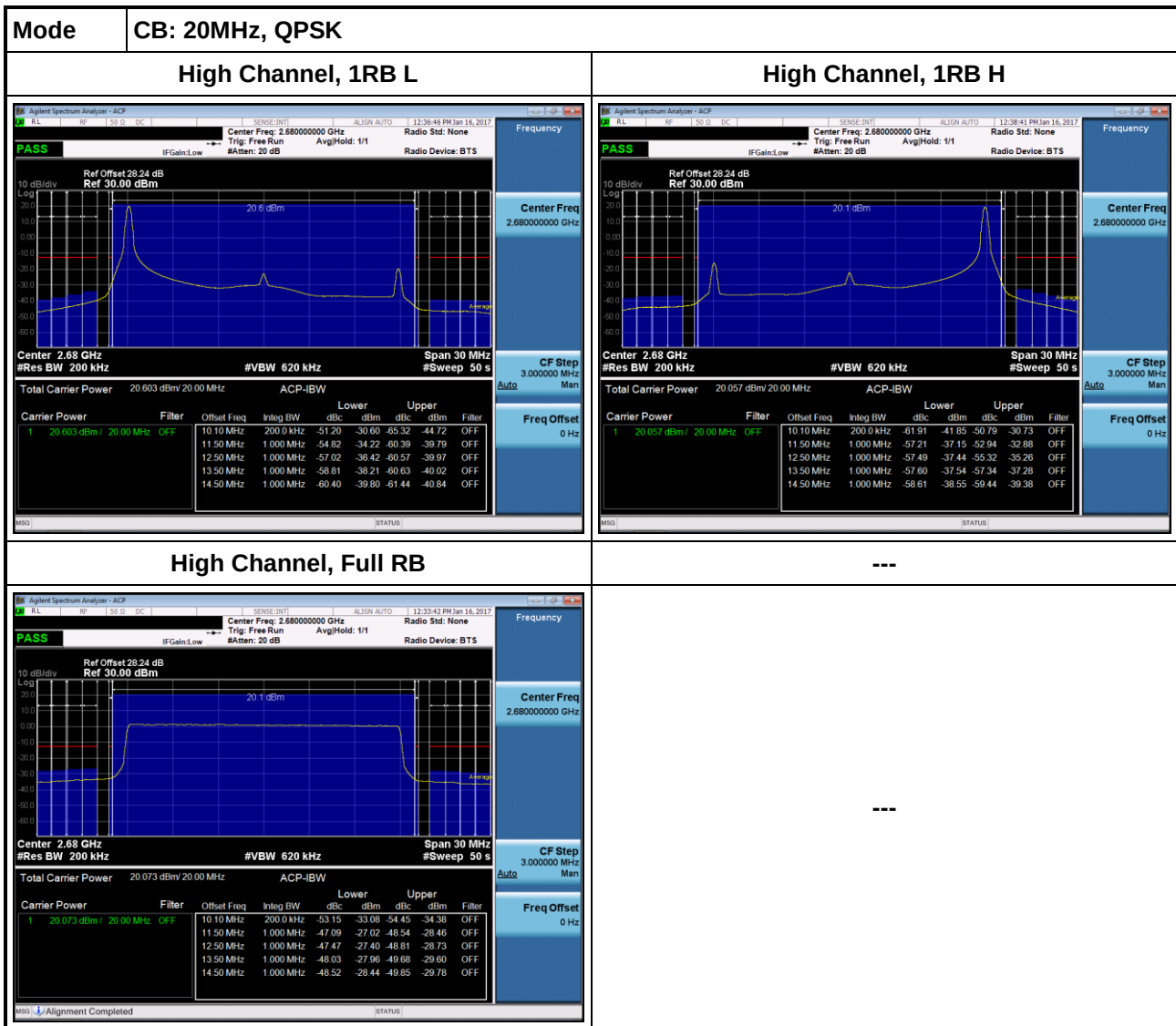
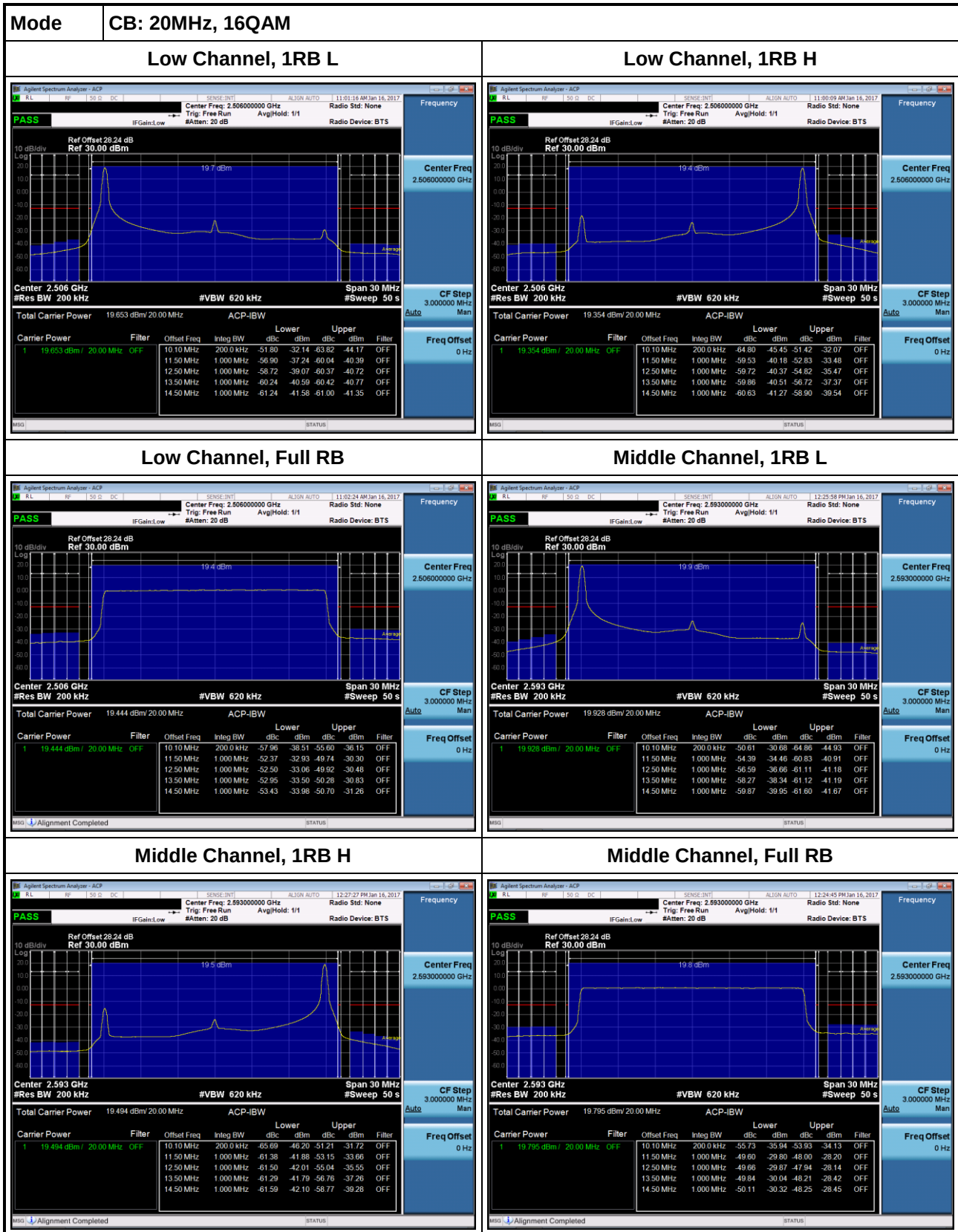
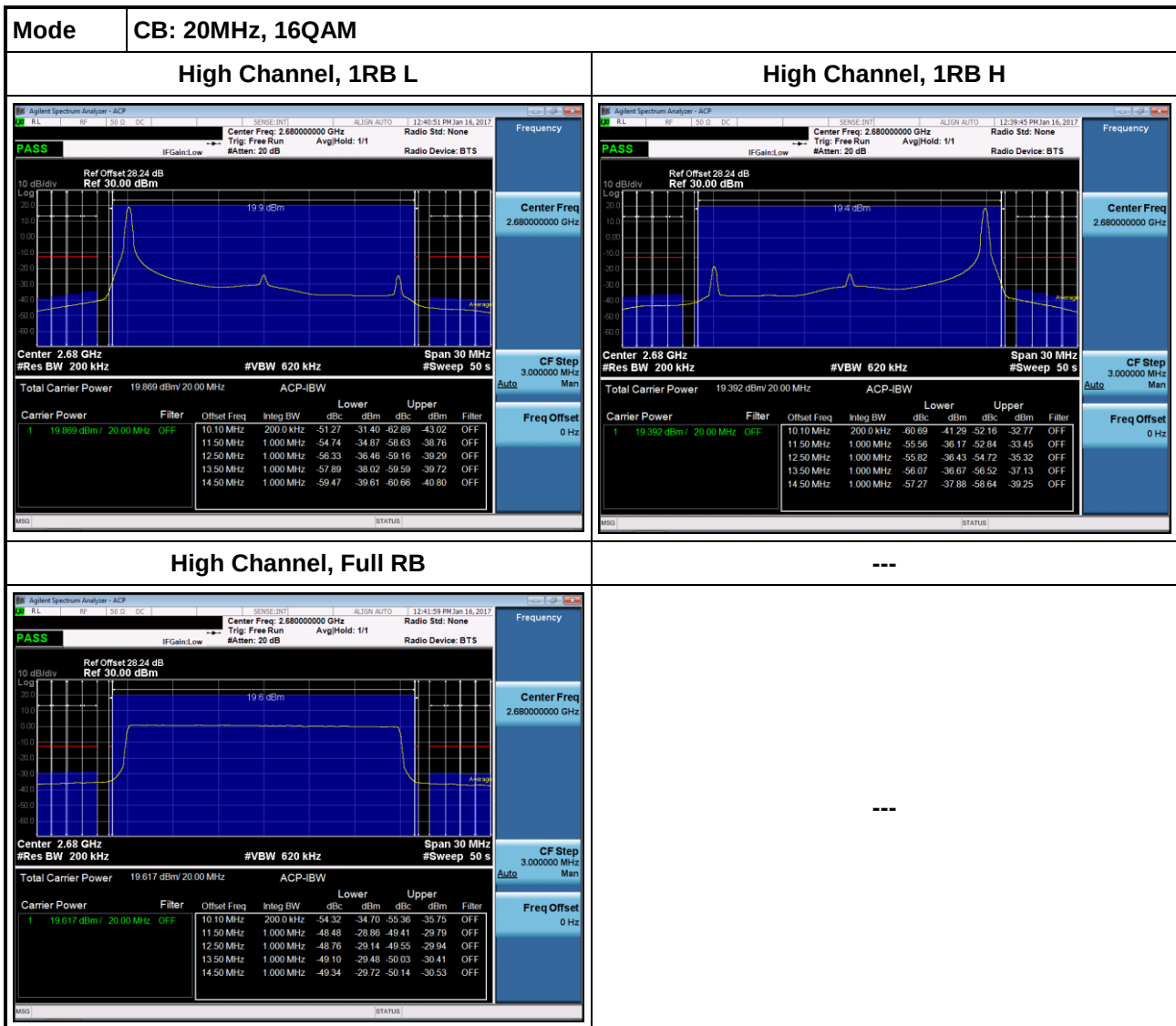
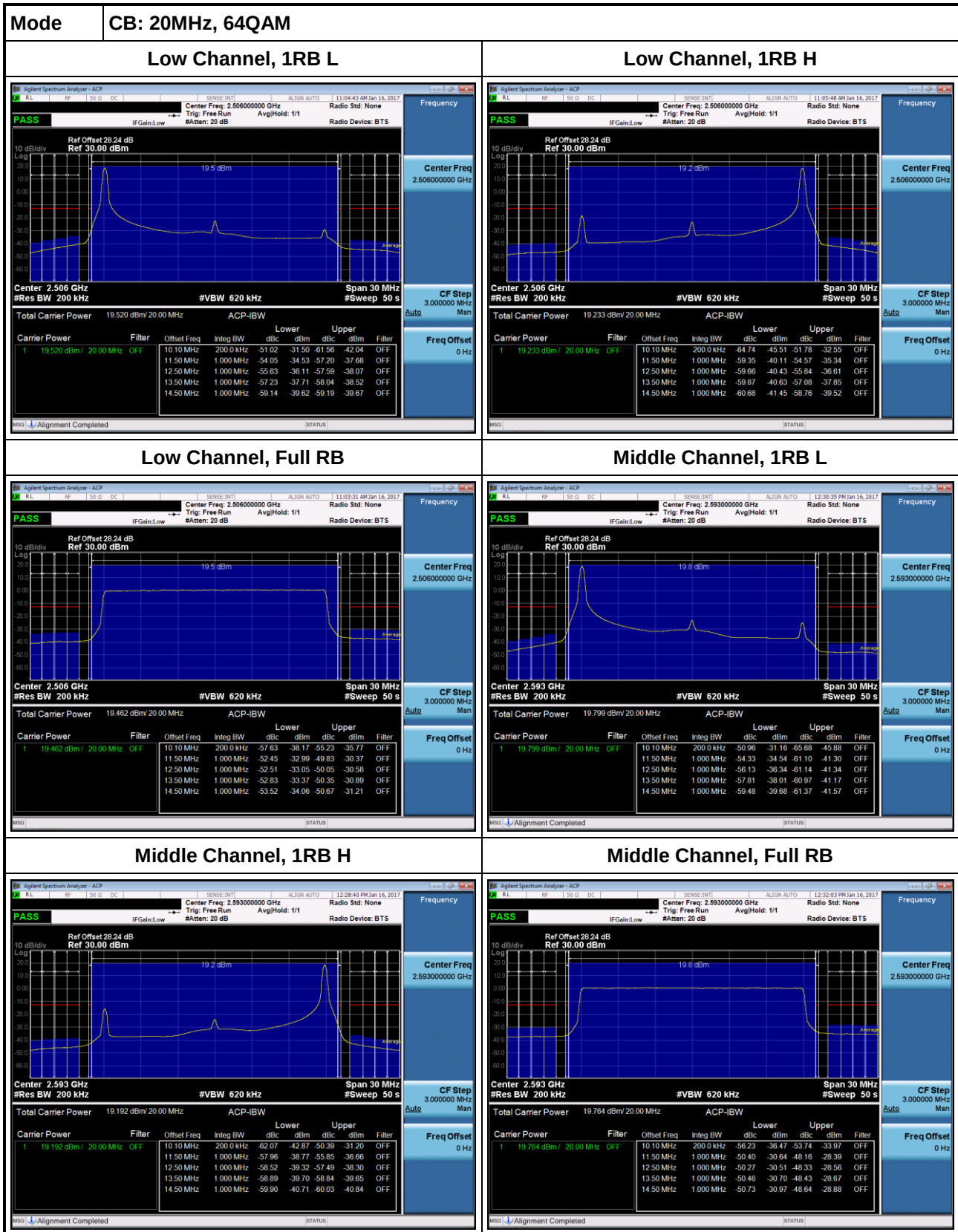


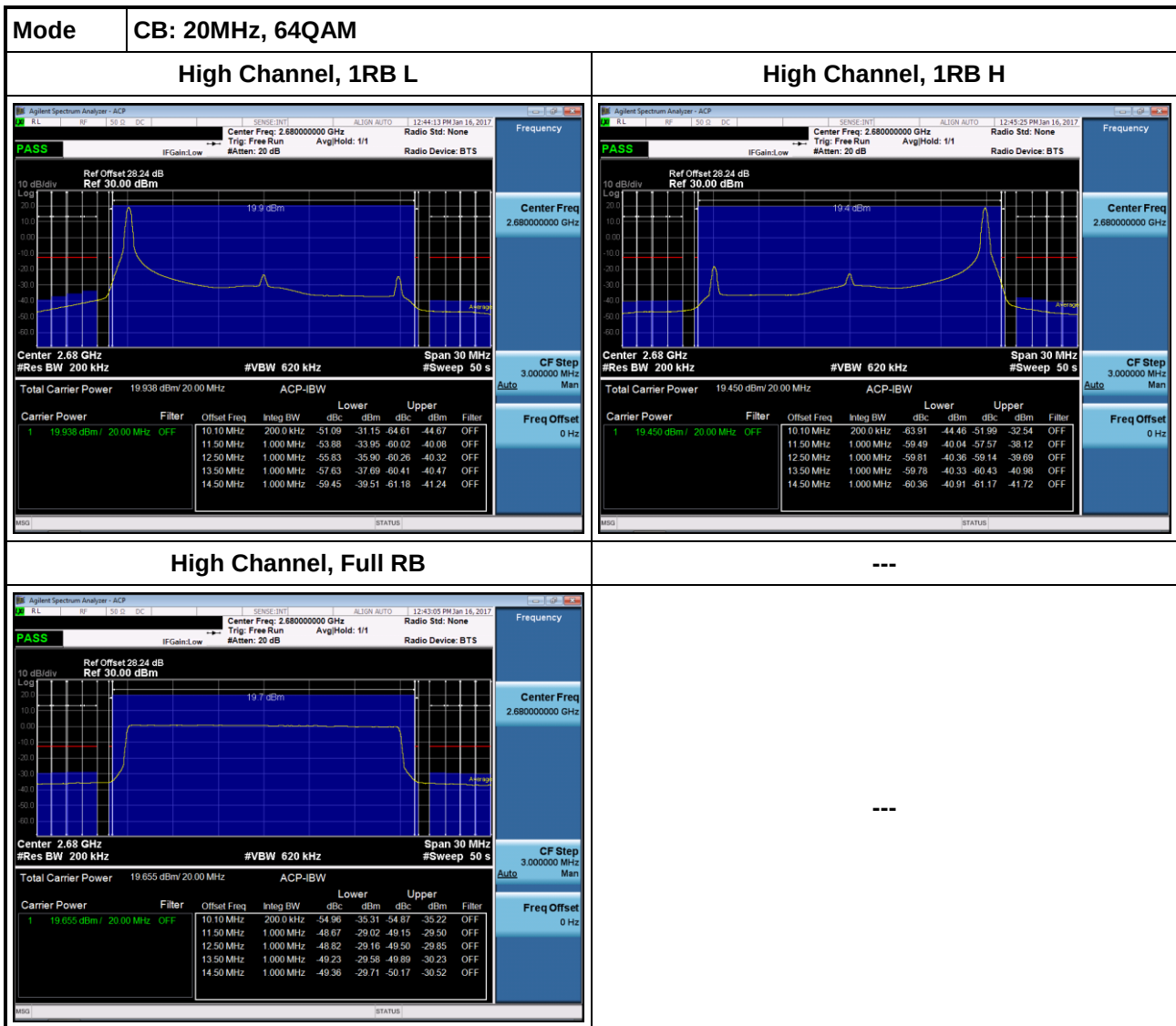










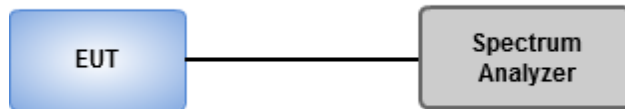


3.5 Emission and Occupied Bandwidth

3.5.1 Test Procedures

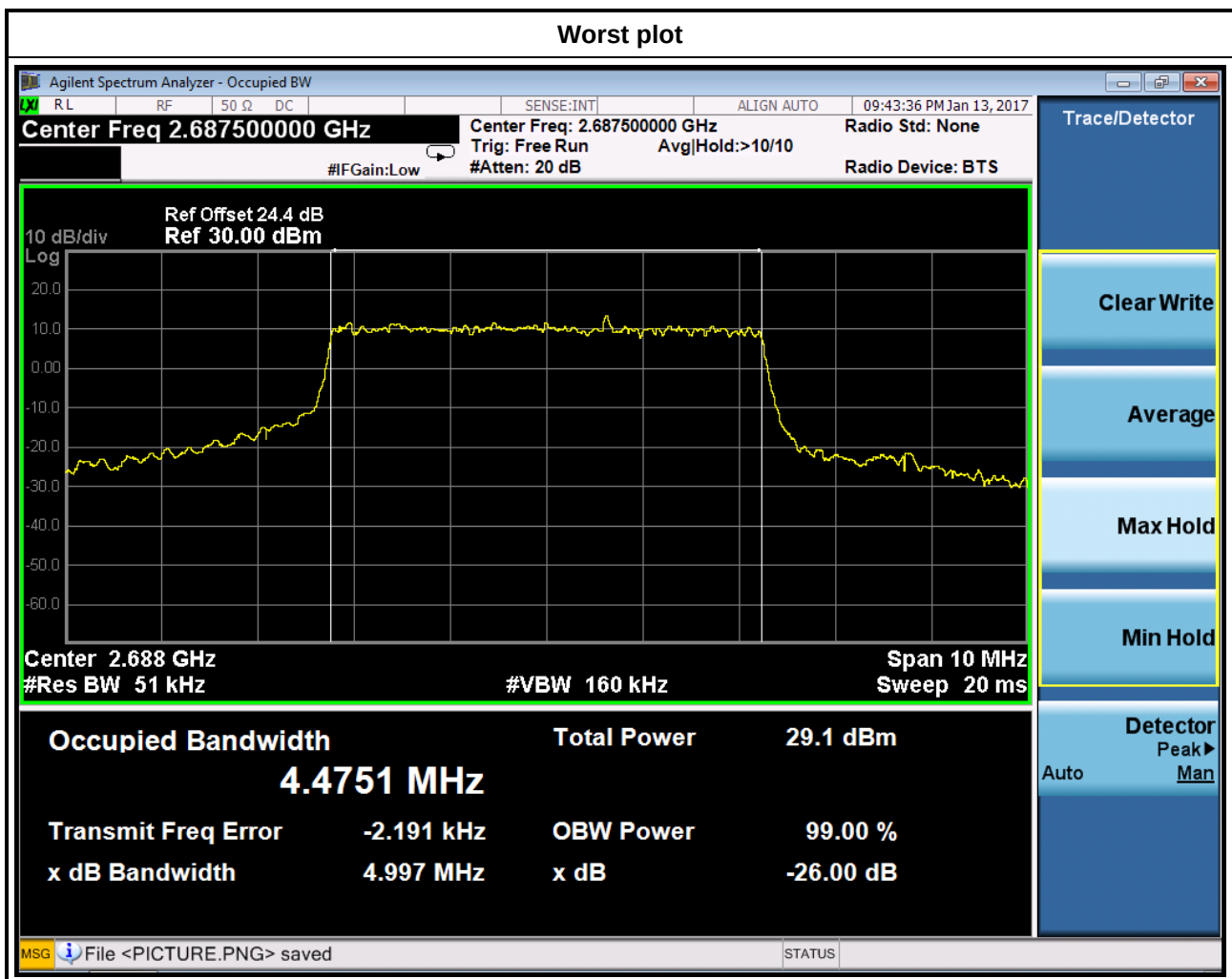
1. Set resolution bandwidth (RBW) = 51~200 kHz, Video bandwidth=160 ~ 620kHz for 5 ~ 20 MHz channel bandwidth
2. Set Detector = Peak, Trace mode = max hold, Sweep = auto couple, Allow the trace to stabilize.
3. Using 26dB and occupied bandwidth measurement function of spectrum analyzer to measure bandwidth

3.5.2 Test Setup

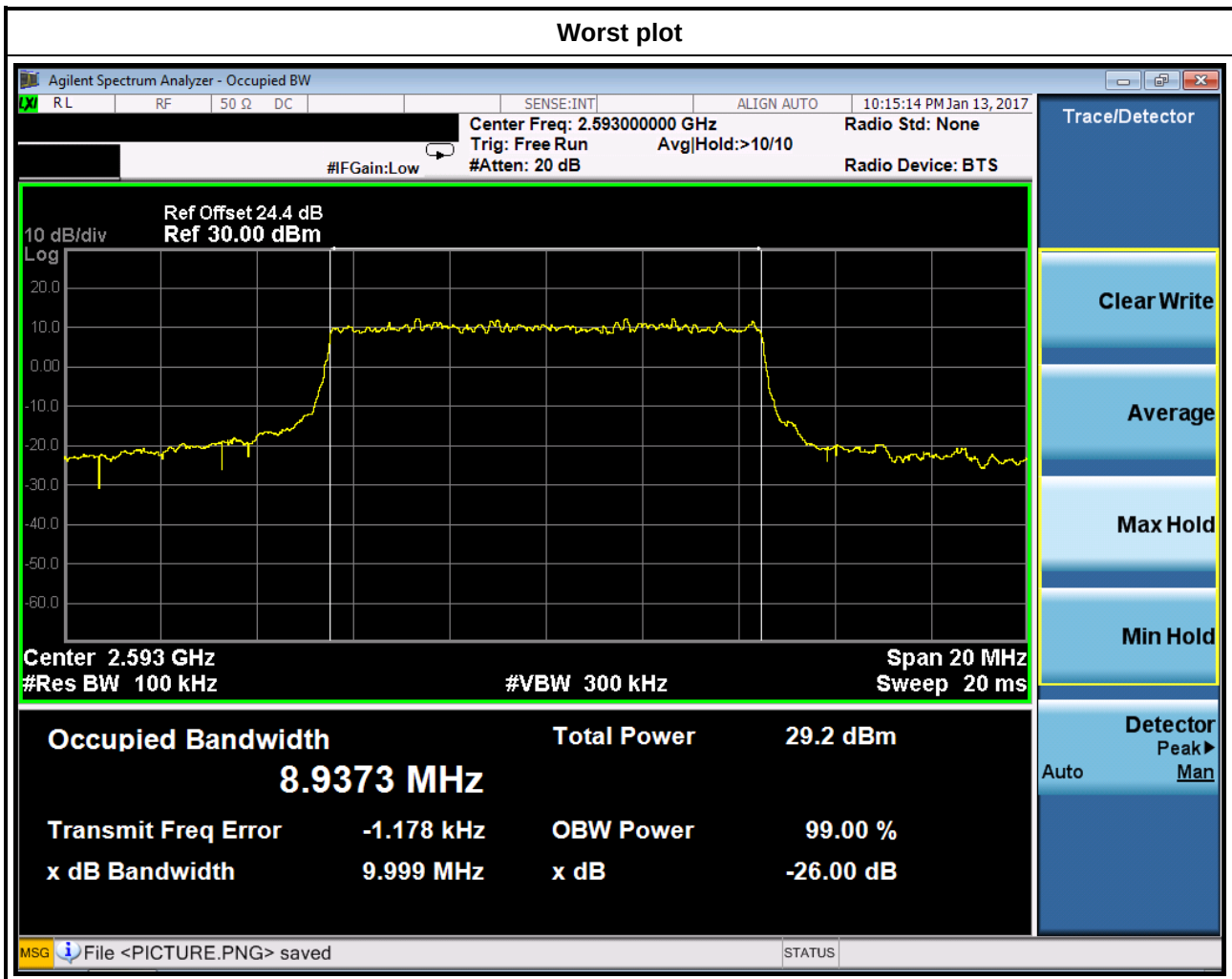


3.5.3 Test Result of Occupied Bandwidth

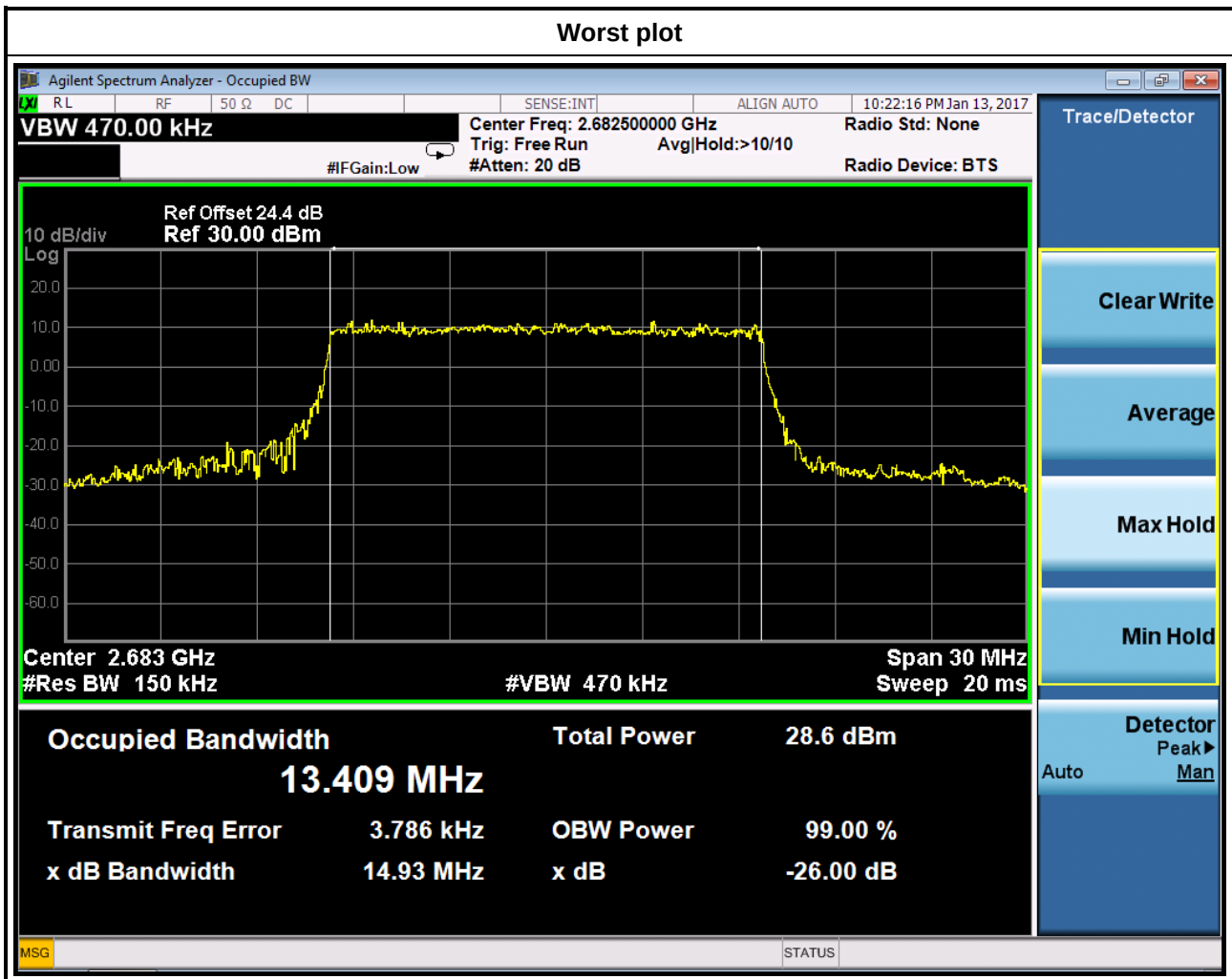
Channel Bandwidth (MHz)	Modulation	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
5	QPSK	2498.5	4.9230	4.4787
5	QPSK	2593.0	4.9240	4.4719
5	QPSK	2687.5	4.9970	4.4751
5	16QAM	2498.5	4.9010	4.4654
5	16QAM	2593.0	4.9040	4.4680
5	16QAM	2687.5	4.9010	4.4647
5	64QAM	2498.5	4.8980	4.4689
5	64QAM	2593.0	4.9570	4.4698
5	64QAM	2687.5	4.9010	4.4683



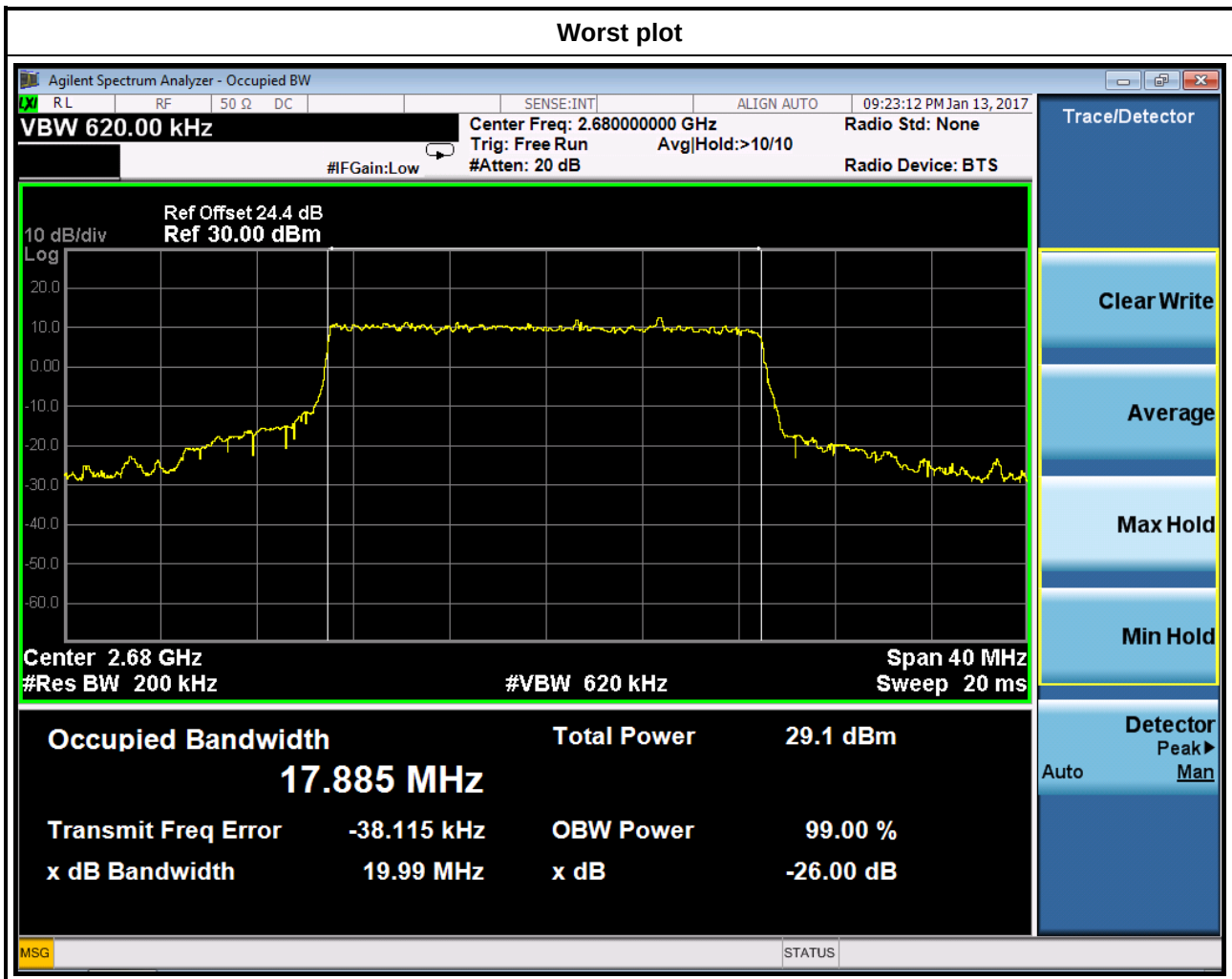
Channel Bandwidth (MHz)	Modulation	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
10	QPSK	2501.0	9.7750	8.9617
10	QPSK	2593.0	9.8040	8.9681
10	QPSK	2685.0	9.8370	8.9529
10	16QAM	2501.0	9.7430	8.9604
10	16QAM	2593.0	9.9600	8.9727
10	16QAM	2685.0	9.9980	8.9502
10	64QAM	2501.0	9.8540	8.9456
10	64QAM	2593.0	9.9990	8.9373
10	64QAM	2685.0	9.9450	8.9494



Channel Bandwidth (MHz)	Modulation	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
15	QPSK	2503.5	14.6600	13.4020
15	QPSK	2593.0	14.7100	13.3900
15	QPSK	2682.5	14.7700	13.4330
15	16QAM	2503.5	14.7300	13.4130
15	16QAM	2593.0	14.8200	13.4100
15	16QAM	2682.5	14.8500	13.4030
15	64QAM	2503.5	14.7100	13.4080
15	64QAM	2593.0	14.8300	13.4400
15	64QAM	2682.5	14.9300	13.4090



Channel Bandwidth (MHz)	Modulation	Frequency (MHz)	26dB BW (MHz)	99% OBW (MHz)
20	QPSK	2506.0	19.5100	17.9250
20	QPSK	2593.0	19.6900	17.9210
20	QPSK	2680.0	19.7900	17.9340
20	16QAM	2506.0	19.2000	17.8540
20	16QAM	2593.0	19.4100	17.9020
20	16QAM	2680.0	19.9900	17.8850
20	64QAM	2506.0	19.5100	17.8630
20	64QAM	2593.0	19.4800	17.8950
20	64QAM	2680.0	19.6900	17.8890



3.6 Frequency Stability

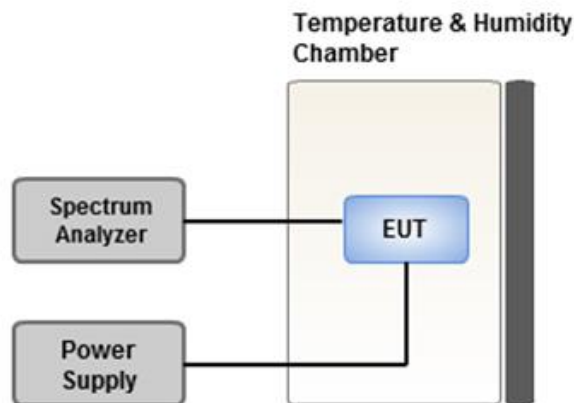
3.6.1 Limit of Frequency Stability

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation

3.6.2 Test Procedures

1. EUT was placed at temperature chamber and connected to an external power supply.
2. Temperature and voltage condition shall be tested to confirm frequency stability.
3. Temperature range is from -40~60°C and voltage range is from lowest to highest working voltage.
4. Tem Link up EUT and simulator. Confirm frequency drift value of simulator and record it.

3.6.3 Test Setup



3.6.4 Test Result of Frequency Stability

Channel Bandwidth: 5MHz

Frequency: 2593.0 MHz	Frequency Drift (ppm)	
Temperature (°C)	Frequency Error (ppm)	Limit (ppm)
T20°C Vmax	0.018	2.5
T20°C Vmin	0.021	2.5
T60°C Vnom	0.019	2.5
T50°C Vnom	0.015	2.5
T40°C Vnom	0.017	2.5
T30°C Vnom	0.016	2.5
T20°C Vnom	0.017	2.5
T10°C Vnom	0.015	2.5
T0°C Vnom	0.015	2.5
T-10°C Vnom	0.016	2.5
T-20°C Vnom	0.017	2.5
T-30°C Vnom	0.014	2.5
T-40°C Vnom	0.014	2.5
Vnom [Vac]: 120	Vmax [Vac]: 138	Vmin [Vac]: 102
Tnom [°C]: 20	Tmax [°C]: 60	Tmin [°C]: -40

Channel Bandwidth: 10MHz

Frequency: 2593.0 MHz	Frequency Drift (ppm)	
Temperature (°C)	Frequency Error (ppm)	Limit (ppm)
T20°C Vmax	0.017	2.5
T20°C Vmin	0.016	2.5
T60°C Vnom	0.018	2.5
T50°C Vnom	0.017	2.5
T40°C Vnom	0.016	2.5
T30°C Vnom	0.015	2.5
T20°C Vnom	0.017	2.5
T10°C Vnom	0.019	2.5
T0°C Vnom	0.016	2.5
T-10°C Vnom	0.018	2.5
T-20°C Vnom	0.015	2.5
T-30°C Vnom	0.014	2.5
T-40°C Vnom	0.014	2.5
Vnom [Vac]: 120	Vmax [Vac]: 138	Vmin [Vac]: 102
Tnom [°C]: 20	Tmax [°C]: 60	Tmin [°C]: -40

Channel Bandwidth: 15MHz

Frequency: 2593.0 MHz	Frequency Drift (ppm)	
Temperature (°C)	Frequency Error (ppm)	Limit (ppm)
T20°C Vmax	0.019	2.5
T20°C Vmin	0.018	2.5
T60°C Vnom	0.017	2.5
T50°C Vnom	0.018	2.5
T40°C Vnom	0.016	2.5
T30°C Vnom	0.019	2.5
T20°C Vnom	0.019	2.5
T10°C Vnom	0.017	2.5
T0°C Vnom	0.018	2.5
T-10°C Vnom	0.016	2.5
T-20°C Vnom	0.017	2.5
T-30°C Vnom	0.014	2.5
T-40°C Vnom	0.014	2.5
Vnom [Vac]: 120	Vmax [Vac]: 138	Vmin [Vac]: 102
Tnom [°C]: 20	Tmax [°C]: 60	Tmin [°C]: -40

Channel Bandwidth: 20MHz

Frequency: 2593.0 MHz	Frequency Drift (ppm)	
Temperature (°C)	Frequency Error (ppm)	Limit (ppm)
T20°C Vmax	0.017	2.5
T20°C Vmin	0.019	2.5
T60°C Vnom	0.020	2.5
T50°C Vnom	0.018	2.5
T40°C Vnom	0.017	2.5
T30°C Vnom	0.015	2.5
T20°C Vnom	0.015	2.5
T10°C Vnom	0.015	2.5
T0°C Vnom	0.017	2.5
T-10°C Vnom	0.018	2.5
T-20°C Vnom	0.018	2.5
T-30°C Vnom	0.014	2.5
T-40°C Vnom	0.014	2.5
Vnom [Vac]: 120	Vmax [Vac]: 138	Vmin [Vac]: 102
Tnom [°C]: 20	Tmax [°C]: 60	Tmin [°C]: -40

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

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